

AICRP(S)-EAST COAST ZONE
SUGARCANE RESEARCH STATION, CUDDALORE
ANNUAL REPORT-2013-14
CROP IMPROVEMENT

Early Trials:

Initial Varietal Trial (Early) was conducted as per the technical programme and the results are presented below.

Initial Varietal Trial (Early):

The performance of five clones was evaluated against three standard varieties. The clone CoC 10336 registered the highest cane yield (128.07 t/ha), followed by CoC 11336 (125.60 t/ha) and CoA11321 (123.03 t/ha). The CCS was maximum in the standard CoC 01061 (12.32 %) followed by CoC 11336 (12.28%) and CoC 10336 (12.21%). The sugar yield was maximum in CoC 10336 (15.63 t/ha) followed by CoC 11336 (15.43 t/ha) and CoA 11321 (14.98 t/ha). (Tables 1.1 to 1.20).

Mid/Late Trials:

Two trials viz., IVT (Mid/Late) and AVT (Mid/Late) I Plant were conducted as per the technical programme.

Initial Varietal Trial (Mid/late) :

Four clones were tested against three standards. The clone CoA 11326 registered the highest cane yield (128.30 t/ha) and sugar yield (14.71 t/ha) while the CCS was maximum in the standard CoV92102 (12.53%) followed by Co7219 (11.96 %) (Tables 2.1 to 2.20).

Advanced Varietal Trial (Mid/late) I Plant:

Three test clones were evaluated along with three standards. The clone CoC 10337 registered the highest cane yield (136.28t/ha) and sugar yield (16.73 t/ha) while the CCS was maximum in CoV 92102 (12.47%). (Tables 3.1 to 3.20).

1.Initial Varietal Trial (Early)

Entries	: CoA11321, CoA11322, CoA11323, CoC10336 and CoC11336
Standards	: Co 6907,CoC 01061 and CoA 92081
Design	: RBD
Replications	: 3
Plot size	Gross:6.0 m x 6 r x 1.2 m Net :5.0 m x 4 r x 1.2 m
Seed rate	: 12 buds/m
Planting time	: 07.02.2013
Crop duration	: 10 months

IVT (Early)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (10 m)	Sucrose % (10m)	Purity % (10m)	CCS % (10m)	Pol % cane (10m)	Extra ction % (10m)	Fibre % (10m)	NMC at ('000/ha) (10m)
1	CoA 11321	14.98	123.03	18.27	17.13	93.85	12.18	13.81	42.45	14.39	105.33
2	CoA 11322	13.92	115.40	17.47	16.80	96.19	12.07	13.92	52.67	12.17	75.37
3	CoA 11323	14.65	120.30	18.13	17.10	94.33	12.18	13.93	45.76	13.56	96.67
4	CoC 10336	15.63	128.07	18.40	17.20	93.53	12.21	14.05	46.79	13.30	99.00
5	CoC 11336	15.43	125.60	18.13	17.20	94.90	12.28	13.98	45.11	13.72	105.37
Std											
1	Co 6907	11.79	97.83	17.80	16.87	94.76	12.04	13.67	44.28	13.93	97.00
2	CoC 01061	13.08	106.23	18.60	17.37	93.40	12.32	14.19	46.84	13.29	113.67
3	CoA 92081	13.44	112.07	18.53	17.03	91.95	12.00	13.87	45.74	13.56	87.37
	CD	1.43	11.44	0.93	0.55	4.50	0.52	0.59	6.45	1.57	15.43
	CV	5.76	5.62	2.91	1.84	2.73	2.45	2.41	7.95	6.65	9.02

S. No.	Clone	t Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (8 m)	Sucrose % (8 m)	Purity % (8 m)	CCS % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germinati on % (30 days)
1	CoA 11321	250.00	2.93	1.33	17.33	15.07	87.02	10.34	120.21	131.71	67.27
2	CoA 11322	268.33	3.27	1.61	16.40	14.40	87.75	9.93	90.91	99.85	46.68
3	CoA 11323	225.00	3.03	1.12	17.07	15.03	88.06	10.37	104.68	110.00	51.77
4	CoC 10336	265.00	2.97	1.32	16.33	14.59	89.37	10.14	114.05	122.61	64.12
5	CoC 11336	303.33	3.07	1.64	17.27	14.73	85.43	10.01	122.44	134.23	71.07
Std											
1	Co 6907	276.67	2.67	1.07	17.00	14.95	87.92	10.31	107.23	120.00	64.89
2	CoC 01061	253.33	2.23	0.89	17.13	15.29	89.37	10.62	123.34	131.51	71.68
3	CoA 92081	215.00	2.94	1.12	17.67	15.32	86.69	10.49	99.44	111.16	56.02
	CD	21.29	0.36	0.25	1.03	0.72	4.50	0.61	10.97	15.03	10.31
	CV	4.72	7.07	11.06	3.44	2.76	2.93	3.39	5.66	7.13	9.52

IVT (EARLY)**Table 1.1 CCS (t/ha)**

Clone	RI	RII	RIII	Mean
CoA11321	15.99	14.55	14.42	14.98
CoA11322	13.87	13.61	14.28	13.92
CoA11323	14.98	13.76	15.22	14.65
CoC10336	15.36	15.78	15.74	15.63
CoC11336	17.11	14.65	14.52	15.43
Stds				
Co6907	12.15	12.54	10.67	11.79
CoC01061	13.19	13.62	12.42	13.08
CoA 92081				13.44
CD(P=0.05)				1.43
CV (%)				5.76

Table 1.2 Cane yield (t/ha)

Clone	RI	RII	RIII	Mean
CoA11321	129.00	117.90	122.20	123.03
CoA11322	111.60	118.30	116.30	115.40
CoA11323	118.60	114.90	127.40	120.30
CoC10336	125.70	132.30	126.20	128.07
CoC11336	138.20	122.70	115.90	125.60
Stds				
Co6907	99.80	103.50	90.20	97.83
CoC01061	105.20	112.70	100.80	106.23
CoA92081	110.50	118.30	107.40	112.07
CD(P=0.05)				11.44
CV (%)				5.62

IVT (EARLY)

Table 1.3 Brix % (10 months)

Clone	RI	RII	RIII	Mean
CoA11321	18.80	17.60	18.40	18.27
CoA11322	18.00	16.60	17.80	17.47
CoA11323	18.00	17.80	18.60	18.13
CoC10336	18.00	19.00	18.20	18.40
CoC11336	17.80	18.60	18.00	18.13
Stds				
Co6907	17.80	18.00	17.60	17.80
CoC01061	19.00	18.80	18.00	18.60
CoA92081	19.00	18.40	18.20	18.53
CD(P=0.05)				0.93
CV (%)				2.91

Table 1.4 Sucrose % (10 months)

Clone	RI	RII	RIII	Mean
CoA11321	17.50	17.10	16.80	17.13
CoA11322	17.30	16.00	17.10	16.80
CoA11323	17.50	16.80	17.00	17.10
CoC10336	17.10	17.10	17.40	17.20
CoC11336	17.20	17.00	17.40	17.20
Stds				
Co6907	17.00	17.00	16.60	16.87
CoC01061	17.70	17.20	17.20	17.37
CoA92081	16.90	17.00	17.20	17.03
CD(P=0.05)				0.55
CV (%)				1.84

IVT (EARLY)

Table 1.5 Purity (10 months)

Clone	RI	RII	RIII	Mean
CoA11321	93.09	97.16	91.30	93.85
CoA11322	96.11	96.39	96.07	96.19
CoA11323	97.22	94.38	91.40	94.33
CoC10336	95.00	90.00	95.60	93.53
CoC11336	96.63	91.40	96.67	94.90
Stds				
Co6907	95.51	94.44	94.32	94.76
CoC01061	93.16	91.49	95.56	93.40
CoA92081	88.95	92.39	94.51	91.95
CD(P=0.05)				4.50
CV (%)				2.73

Table 1.6 CCS % (10 months)

Clones	RI	RII	RIII	Mean
CoA11321	12.40	12.34	11.80	12.18
CoA11322	12.42	11.50	12.28	12.07
CoA11323	12.63	11.97	11.94	12.18
CoC10336	12.22	11.93	12.47	12.21
CoC11336	12.38	11.94	12.53	12.28
Stds				
Co6907	12.18	12.12	11.83	12.04
CoC01061	12.54	12.09	12.32	12.32
CoA92081	11.72	12.00	12.26	12.00
CD(P=0.05)				0.52
CV (%)				2.45

Table 1.7 Pol % cane (10 months)

Clones	RI	RII	RIII	Mean
CoA11321	14.14	13.75	13.55	13.81
CoA11322	14.45	13.03	14.28	13.92
CoA11323	14.40	13.45	13.93	13.93
CoC10336	13.83	13.76	14.57	14.05
CoC11336	14.10	13.86	13.98	13.98
Stds				
Co6907	13.65	13.67	13.70	13.67
CoC01061	14.43	13.90	14.23	14.19
CoA92081	13.71	13.78	14.12	13.87
CD(P=0.05)				0.59
CV (%)				2.41

Table 1.8 Extraction % (10 months)

Clones	RI	RII	RIII	Mean
CoA11321	43.18	41.67	42.50	42.45
CoA11322	54.12	45.76	58.14	52.67
CoA11323	49.18	40.28	47.83	45.76
CoC10336	43.59	41.77	55.00	46.79
CoC11336	47.92	46.00	41.41	45.11
Stds				
Co6907	41.18	41.67	50.00	44.28
CoC01061	46.15	43.33	51.02	46.84
CoA92081	44.44	44.30	48.48	45.74
CD(P=0.05)				6.45
CV (%)				7.95

Table 1.9 Fiber % (10 m)

Clones	RI	RII	RIII	Mean
CoA11321	14.20	14.58	14.38	14.39
CoA11322	11.47	13.56	11.47	12.17
CoA11323	12.70	14.93	13.04	13.56
CoC10336	14.10	14.56	11.25	13.30
CoC11336	13.02	13.50	14.65	13.72
Stds				
Co6907	14.71	14.58	12.50	13.93
CoC01061	13.46	14.17	12.24	13.29
CoA92081	13.89	13.92	12.88	13.56
CD(P=0.05)				1.57
CV (%)				6.65

IVT (EARLY)**Table 1.10 NMC at 10m ('000/ha)**

Clones	RI	RII	RIII	Mean
CoA11321	107.50	98.30	110.20	105.33
CoA11322	71.30	76.50	78.30	75.37
CoA11323	96.40	87.40	106.20	96.67
CoC10336	90.50	98.30	108.20	99.00
CoC11336	115.60	102.90	97.60	105.37
Stds				
Co6907	94.50	108.30	88.20	97.00
CoC01061	120.20	118.30	102.50	113.67
CoA92081	88.50	93.20	80.40	87.37
CD(P=0.05)				15.43
CV (%)				9.02

Table 1.11 Stalk Length (cm)

Clones	RI	RII	RIII	Mean
CoA11321	250.00	260.00	240.00	250.00
CoA11322	260.00	270.00	275.00	268.33
CoA11323	220.00	230.00	225.00	225.00
CoC10336	250.00	270.00	275.00	265.00
CoC11336	300.00	330.00	280.00	303.33
Stds				
Co6907	280.00	300.00	250.00	276.67
CoC01061	250.00	260.00	250.00	253.33
CoA92081	210.00	220.00	215.00	215.00
CD(P=0.05)				21.29
CV (%)				4.72

Table 1.12 Stalk Diameter (cm)

Clones	RI	RII	RIII	Mean
CoA11321	3.00	2.80	3.00	2.93
CoA11322	3.00	3.30	3.50	3.27
CoA11323	3.10	3.20	2.80	3.03
CoC10336	3.10	3.00	2.80	2.97
CoC11336	3.20	3.00	3.00	3.07
Stds				
Co6907	2.50	2.70	2.80	2.67
CoC01061	2.20	2.00	2.50	2.23
CoA92081	2.76	3.20	2.85	2.94
CD(P=0.05)				0.36
CV (%)				7.07

Table 1.13 Single cane weight (kg)

Clones	RI	RII	RIII	Mean
CoA11321	1.47	1.20	1.33	1.33
CoA11322	1.42	1.97	1.43	1.61
CoA11323	1.02	1.20	1.15	1.12
CoC10336	1.30	1.32	1.33	1.32
CoC11336	1.60	1.67	1.65	1.64
Stds				
Co6907	1.13	1.00	1.07	1.07
CoC01061	0.87	1.00	0.82	0.89
CoA92081	1.20	1.05	1.10	1.12
CD(P=0.05)				0.25
CV (%)				11.06

Table 1.14 Brix % (8 m)

Clones	RI	RII	RIII	Mean
CoA11321	17.80	16.60	17.60	17.33
CoA11322	17.00	15.60	16.60	16.40
CoA11323	17.00	16.80	17.40	17.07
CoC10336	16.00	16.00	17.00	16.33
CoC11336	16.40	17.60	17.80	17.27
Stds				
Co6907	16.80	17.00	17.20	17.00
CoC01061	16.00	17.80	17.60	17.13
CoA92081	18.00	17.40	17.60	17.67
CD(P=0.05)				1.03
CV (%)				3.44

Table 1.15 Sucrose % (8 m)

Clones	RI	RII	RIII	Mean
CoA11321	15.05	14.87	15.30	15.07
CoA11322	15.12	13.22	14.87	14.40
CoA11323	15.12	14.87	15.09	15.03
CoC10336	14.69	14.44	14.63	14.59
CoC11336	14.81	14.57	14.81	14.73
Stds				
Co6907	14.63	15.12	15.09	14.95
CoC01061	15.02	15.54	15.30	15.29
CoA92081	15.78	14.85	15.32	15.32
CD(P=0.05)				0.72
CV (%)				2.76

Table 1.16 Purity % (8 m)

Clones	RI	RII	RIII	Mean
CoA11321	84.55	89.58	86.93	87.02
CoA11322	88.94	84.74	89.58	87.75
CoA11323	88.94	88.51	86.72	88.06
CoC10336	91.81	90.25	86.06	89.37
CoC11336	90.30	82.78	83.20	85.43
Stds				
Co6907	87.08	88.94	87.73	87.92
CoC01061	93.88	87.30	86.93	89.37
CoA92081	87.67	85.34	87.05	86.69
CD(P=0.05)				4.50
CV (%)				2.93

Table 1.17 CCS % (8 m)

Clones	RI	RII	RIII	Mean
CoA11321	10.18	10.35	10.50	10.34
CoA11322	10.49	8.96	10.35	9.93
CoA11323	10.49	10.29	10.34	10.37
CoC10336	10.34	10.09	9.99	10.14
CoC11336	10.35	9.75	9.94	10.01
Stds				
Co6907	10.05	10.49	10.40	10.31
CoC01061	10.68	10.68	10.50	10.62
CoA92081	10.87	10.10	10.52	10.49
CD(P=0.05)				0.61
CV (%)				3.39

Table 1.18 No. of shoots (000/ha)-240 days

Clones	RI	RII	RIII	Mean
CoA11321	119.96	114.47	126.19	120.21
CoA11322	94.19	89.79	88.75	90.91
CoA11323	100.58	99.58	113.89	104.68
CoC10336	108.40	115.00	118.75	114.05
CoC11336	126.92	119.93	120.48	122.44
Stds				
Co6907	105.58	116.23	99.88	107.23
CoC01061	125.46	128.92	115.65	123.34
CoA92081	96.44	102.87	99.00	99.44
CD(P=0.05)				10.97
CV (%)				5.66

Table 1.19 No. of tillers (000/ha)-120 days

Clones	RI	RII	RIII	Mean
CoA11321	129.79	127.18	138.15	131.71
CoA11322	107.18	97.69	94.68	99.85
CoA11323	106.56	107.40	116.04	110.00
CoC10336	114.58	125.00	128.26	122.61
CoC11336	143.06	129.07	130.56	134.23
Stds				
Co6907	114.81	137.73	107.45	120.00
CoC01061	134.58	135.00	124.95	131.51
CoA92081	104.86	118.01	110.60	111.16
CD(P=0.05)				15.03
CV (%)				7.13

Table 1.20 Germination (%)-30 days

Clones	RI	RII	RIII	Mean
CoA11321	65.05	64.81	71.94	67.27
CoA11322	46.99	38.43	54.63	46.68
CoA11323	48.38	51.62	55.32	51.77
CoC10336	62.27	59.72	70.37	64.12
CoC11336	76.16	66.67	70.37	71.07
Stds				
Co6907	62.50	66.44	65.74	64.89
CoC01061	75.69	75.69	63.66	71.68
CoA92081	64.12	44.44	59.49	56.02
CD(P=0.05)				10.31
CV (%)				9.52

2. Initial Varietal Trial (Mid Late)

Entries	: CoA11324, CoA11325, CoA11326 and CoOr11346
Standards	: CoV92102, Co7219 and Co86249
Design	:RBD
Replications	:3
Plot size	Gross:6.0 m x 6 r x 1.2 m Net :5.0 m x 4 r x 1.2 m
Seed rate	: 12 buds/m
Date of Planting	:06.02.2013
Crop duration	:12 months

IVT (Midlate)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (12 m)	Sucrose % (12 m)	Purity % (12 m)	CCS % (12 m)	Pol % cane (12m)	Extracti on % (12 m)	Fibre % (12 m)	NMC at 12 m ('000/ha)
1	CoA 11324	13.26	116.33	18.07	16.31	90.28	11.39	13.39	52.13	12.94	104.87
2	CoA 11325	11.44	103.83	18.80	16.15	85.92	11.02	13.35	59.70	12.33	100.13
3	CoA 11326	14.71	128.30	16.20	15.84	97.81	11.46	13.03	54.23	12.77	90.47
4	CoOr 11346	11.41	98.40	18.53	16.64	89.79	11.59	13.66	48.35	12.91	78.67
Stds											
1	CoV 92102	13.81	110.27	19.13	17.73	92.68	12.53	14.51	50.03	13.16	92.87
2	Co 7219	10.55	88.17	19.27	17.21	89.35	11.96	14.12	48.14	12.96	81.80
3	Co 86249	8.85	79.37	16.07	15.50	96.49	11.15	12.70	47.67	13.08	71.27
	CD	1.07	8.43	0.53	0.42	3.11	0.42	0.46	6.74	0.91	10.65
	CV	4.99	4.58	1.66	1.43	1.90	2.06	1.90	7.36	3.98	6.75

S. No.	Clone	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germina tion % (30 days)
1	CoA 11324	167.00	2.30	1.02	15.87	13.00	81.92	8.65	112.90	130.29	77.67
2	CoA 11325	202.00	2.43	0.71	16.33	13.13	80.36	8.65	105.13	112.18	63.03
3	CoA 11326	159.67	2.97	1.18	14.20	11.59	81.58	7.70	105.57	110.46	64.92
4	CoOr 11346	186.00	2.57	1.02	16.20	13.94	86.08	9.52	93.97	98.62	51.94
Stds											
1	CoV 92102	194.33	2.47	1.03	16.73	14.64	87.47	10.08	99.67	106.92	62.88
2	Co 7219	163.67	2.47	0.87	17.67	15.08	85.39	10.25	91.97	96.51	53.92
3	Co 86249	158.67	2.30	0.69	13.80	11.07	80.35	7.28	80.07	84.88	49.92
	CD	25.11	0.22	0.05	0.86	0.61	4.05	0.53	12.36	18.31	7.55
	CV	8.02	4.96	2.80	3.07	2.59	2.73	3.33	7.05	9.73	7.00

IVT (MIDLATE)

Table 2.1 CCS (t/ha)

Clones	RI	RII	RIII	Mean
CoA11324	13.13	12.01	14.65	13.26
CoA11325	10.88	11.56	11.88	11.44
CoA11326	14.35	15.01	14.75	14.71
CoOr11346	11.06	11.62	11.54	11.41
Stds				
CoV92102	13.85	13.95	13.62	13.81
Co7219	10.97	10.41	10.26	10.55
Co86249	8.93	8.80	8.81	8.85
CD(P=0.05)				1.07
CV (%)				4.99

Table 2.2 Cane yield (t/ha)

Clones	RI	RII	RIII	Mean
CoA11324	117.50	106.20	125.30	116.33
CoA11325	99.70	102.60	109.20	103.83
CoA11326	126.40	131.20	127.30	128.30
CoOr11346	95.70	101.30	98.20	98.40
Stds				
CoV92102	112.60	107.30	110.90	110.27
Co7219	92.30	86.90	85.30	88.17
Co86249	80.50	76.30	81.30	79.37
CD(P=0.05)				8.43
CV (%)				4.58

Table 2.3 Brix (%) 12 months

Clones	RI	RII	RIII	Mean
CoA11324	18.00	18.20	18.00	18.07
CoA11325	18.60	19.00	18.80	18.80
CoA11326	16.20	16.40	16.00	16.20
CoOr11346	18.20	18.40	19.00	18.53
Stds				
CoV92102	18.80	19.00	19.60	19.13
Co7219	19.40	19.60	18.80	19.27
Co86249	16.00	16.20	16.00	16.07
CD(P=0.05)				0.53
CV (%)				1.66

Table 2.4 Sucrose (%) 12 months

Clones	RI	RII	RIII	Mean
CoA11324	16.08	16.27	16.58	16.31
CoA11325	15.99	16.45	16.02	16.15
CoA11326	15.74	15.88	15.91	15.84
CoOr11346	16.51	16.48	16.93	16.64
Stds				
CoV92102	17.41	18.15	17.62	17.73
Co7219	17.17	17.32	17.14	17.21
Co86249	15.42	15.91	15.18	15.50
CD(P=0.05)				0.42
CV (%)				1.43

Table 2.5 Purity (%) 12 months

Clones	RI	RII	RIII	Mean
CoA11324	89.33	89.40	92.11	90.28
CoA11325	85.97	86.58	85.21	85.92
CoA11326	97.16	96.83	99.44	97.81
CoOr11346	90.71	89.57	89.11	89.79
Stds				
CoV92102	92.61	95.53	89.90	92.68
Co7219	88.51	88.37	91.17	89.35
Co86249	96.38	98.21	94.88	96.49
CD(P=0.05)				3.11
CV (%)				1.90

Table 2.6 CCS (%) 12 months

Clones	RI	RII	RIII	Mean
CoA11324	11.18	11.31	11.69	11.39
CoA11325	10.91	11.26	10.88	11.02
CoA11326	11.36	11.44	11.59	11.46
CoOr11346	11.56	11.47	11.75	11.59
Stds				
CoV92102	12.30	13.00	12.28	12.53
Co7219	11.88	11.98	12.03	11.96
Co86249	11.09	11.53	10.84	11.15
CD(P=0.05)				0.42
CV (%)				2.06

Table 2.7 Pol % cane (12m)

Clones	RI	RII	RIII	Mean
CoA11324	13.07	13.40	13.70	13.39
CoA11325	13.19	13.65	13.22	13.35
CoA11326	12.99	13.07	13.03	13.03
CoOr11346	13.62	13.46	13.90	13.66
Stds				
CoV92102	14.15	14.91	14.47	14.51
Co7219	14.17	14.20	13.99	14.12
Co86249	12.64	13.13	12.33	12.70
CD(P=0.05)				0.46
CV (%)				1.90

Table 2.8 Extraction % (12m)

Clones	RI	RII	RIII	Mean
CoA11324	45.00	53.33	58.06	52.13
CoA11325	60.00	60.00	59.09	59.70
CoA11326	50.00	57.14	55.56	54.23
CoOr11346	50.00	46.67	48.39	48.35
Stds				
CoV92102	45.00	56.67	48.44	50.03
Co7219	50.00	48.00	46.43	48.14
Co86249	48.00	50.00	45.00	47.67
CD(P=0.05)				6.74
CV (%)				7.36

Table 2.9 Fibre % (12m)

Clones	RI	RII	RIII	Mean
CoA11324	13.75	12.67	12.40	12.94
CoA11325	12.50	12.00	12.48	12.33
CoA11326	12.50	12.71	13.11	12.77
CoOr11346	12.50	13.33	12.90	12.91
Stds				
CoV92102	13.75	12.83	12.89	13.16
Co7219	12.50	13.00	13.39	12.96
Co86249	13.00	12.50	13.75	13.08
CD(P=0.05)				0.91
CV (%)				3.98

Table 2.10 NMC at ('000/ha) (12m)

Clones	RI	RII	RIII	Mean
CoA11324	102.30	95.60	116.70	104.87
CoA11325	96.40	105.30	98.70	100.13
CoA11326	88.70	95.90	86.80	90.47
CoOr11346	78.50	81.60	75.90	78.67
Stds				
CoV92102	99.50	88.70	90.40	92.87
Co7219	81.60	85.30	78.50	81.80
Co86249	72.30	70.10	71.40	71.27
CD(P=0.05)				10.65
CV (%)				6.75

Table 2.11 Stalk Length (cm)

Clones	RI	RII	RIII	Mean
CoA11324	190.00	151.00	160.00	167.00
CoA11325	200.00	201.00	205.00	202.00
CoA11326	168.00	156.00	155.00	159.67
CoOr11346	208.00	175.00	175.00	186.00
Stds				
CoV92102	200.00	173.00	210.00	194.33
Co7219	180.00	151.00	160.00	163.67
Co86249	141.00	160.00	175.00	158.67
CD(P=0.05)				25.11
CV (%)				8.02

Table 2.12 Stalk Diameter (cm)

Clones	RI	RII	RIII	Mean
CoA11324	2.40	2.20	2.30	2.30
CoA11325	2.40	2.40	2.50	2.43
CoA11326	2.80	3.10	3.00	2.97
CoOr11346	2.60	2.50	2.60	2.57
Stds				
CoV92102	2.60	2.50	2.30	2.47
Co7219	2.40	2.50	2.50	2.47
Co86249	2.50	2.20	2.20	2.30
CD(P=0.05)				0.22
CV (%)				4.96

Table 2.13 Single cane weight (kg)

Clones	RI	RII	RIII	Mean
CoA11324	1.03	1.00	1.03	1.02
CoA11325	0.73	0.67	0.73	0.71
CoA11326	1.17	1.17	1.20	1.18
CoOr11346	1.03	1.00	1.03	1.02
Stds				
CoV92102	1.03	1.00	1.07	1.03
Co7219	0.83	0.83	0.93	0.87
Co86249	0.73	0.67	0.67	0.69
CD(P=0.05)				0.05
CV (%)				2.80

Table 2.14 Brix % (10 m)

Clones	RI	RII	RIII	Mean
CoA11324	15.40	16.20	16.00	15.87
CoA11325	16.00	16.40	16.60	16.33
CoA11326	14.00	14.40	14.20	14.20
CoOr11346	16.40	16.00	16.20	16.20
Stds				
CoV92102	16.00	17.40	16.80	16.73
Co7219	18.00	17.60	17.40	17.67
Co86249	14.40	13.00	14.00	13.80
CD(P=0.05)				0.86
CV (%)				3.07

Table 2.15 Sucrose % (10 m)

Clones	RI	RII	RIII	Mean
CoA11324	12.28	12.78	13.94	13.00
CoA11325	12.78	12.95	13.65	13.13
CoA11326	11.10	11.82	11.84	11.59
CoOr11346	13.68	13.71	14.44	13.94
Stds				
CoV92102	13.71	15.09	15.12	14.64
Co7219	14.57	15.09	15.57	15.08
Co86249	11.08	11.00	11.13	11.07
CD(P=0.05)				0.61
CV (%)				2.59

Table 2.16 Purity % (10 m)

Clones	RI	RII	RIII	Mean
CoA11324	79.74	78.89	87.13	81.92
CoA11325	79.88	78.96	82.23	80.36
CoA11326	79.29	82.08	83.38	81.58
CoOr11346	83.41	85.69	89.14	86.08
Stds				
CoV92102	85.69	86.72	90.00	87.47
Co7219	80.94	85.74	89.48	85.39
Co86249	76.94	84.62	79.50	80.35
CD(P=0.05)				4.05
CV (%)				2.73

Table 2.17 CCS % (10 m)

Clones	RI	RII	RIII	Mean
CoA11324	8.05	8.33	9.57	8.65
CoA11325	8.39	8.45	9.10	8.65
CoA11326	7.26	7.88	7.95	7.70
CoOr11346	9.19	9.34	10.03	9.52
Stds				
CoV92102	9.34	10.34	10.55	10.08
Co7219	9.63	10.28	10.83	10.25
Co86249	7.12	7.45	7.29	7.28
CD(P=0.05)				0.53
CV (%)				3.33

Table 2.18 No. of shoots ('000/ha) 240 days

Clones	RI	RII	RIII	Mean
CoA11324	107.70	105.60	125.40	112.90
CoA11325	98.60	110.30	106.50	105.13
CoA11326	108.60	109.70	98.40	105.57
CoOr11346	96.40	99.30	86.20	93.97
Stds				
CoV92102	103.60	98.70	96.70	99.67
Co7219	99.40	88.60	87.90	91.97
Co86249	80.80	82.60	76.80	80.07
CD(P=0.05)				12.36
CV (%)				7.05

Table 2.19 No. of tillers ('000/ha) 120 days

Clones	RI	RII	RIII	Mean
CoA11324	119.69	115.85	155.34	130.29
CoA11325	104.59	116.02	115.93	112.18
CoA11326	112.83	115.75	102.79	110.46
CoOr11346	102.60	100.38	92.87	98.62
Stds				
CoV92102	112.18	102.46	106.12	106.92
Co7219	101.81	91.56	96.16	96.51
Co86249	85.51	87.73	81.39	84.88
CD(P=0.05)				18.31
CV (%)				9.73

Table 2.20 Germination % (30 days)

Clones	RI	RII	RIII	Mean
CoA11324	80.00	73.61	79.40	77.67
CoA11325	62.50	56.72	69.86	63.03
CoA11326	61.94	66.16	66.67	64.92
CoOr11346	54.63	53.01	48.19	51.94
Stds				
CoV92102	68.52	59.95	60.16	62.88
Co7219	53.47	49.31	58.98	53.92
Co86249	49.77	52.31	47.68	49.92
CD(P=0.05)				7.55
CV (%)				7.00

3. Advanced Varietal Trial (Mid/Late)-I Plant

Entries	: CoA10321, CoC10337 and CoOr10346
Standards	: CoV 92102, Co 7219 and Co86249
Design	:RBD
Replications	:4
Plot size	Gross:6.0 m x 8 r x 0.8 m Net :5.0 m x 6 r x 0.8 m
Seed rate	: 12 buds/m
Planting time	: 05.02.2013
Crop duration	:12 months

AVT (M/L) I Plant

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (12 m)	Sucrose % (12m)	Purity % (12m)	CCS % (12m)	Pol % cane (12m)	Extracti on % (12m)	Fibre % (12m)	NMC at ('000/ha) (12m)
1	CoA10321	14.05	118.13	16.95	16.48	97.22	11.89	13.45	46.03	13.39	94.48
2	CoC10337	16.73	136.28	18.45	17.27	93.62	12.26	14.26	45.99	12.42	104.95
3	CoOr10346	13.27	107.93	18.25	17.23	94.43	12.28	13.81	35.50	14.83	96.70
Stds											
1	CoV92102	13.93	111.55	18.75	17.56	93.65	12.47	14.40	48.04	12.97	88.03
2	Co7219	13.70	111.13	18.65	17.38	93.21	12.32	14.04	43.16	14.22	100.50
3	Co86249	9.28	83.20	16.70	15.68	93.93	11.15	12.84	45.35	13.14	85.18
	CD	1.42	8.85	0.56	0.49	3.64	0.50	0.49	5.39	2.11	13.09
	CV	6.98	5.27	2.08	1.93	2.56	2.73	2.37	8.14	10.38	9.15

S. No.	Clone	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germinati on % (30 days)
1	CoA10321	277.25	2.88	1.40	15.10	12.34	81.75	8.20	115.67	129.23	61.55
2	CoC10337	256.25	2.85	1.63	16.45	13.64	82.85	9.13	110.07	121.22	65.05
3	CoOr10346	224.75	2.33	0.88	16.15	14.13	87.48	9.73	103.16	120.28	63.45
Stds											
1	CoV92102	234.25	2.30	1.10	16.55	14.31	86.52	9.79	95.73	112.45	66.53
2	Co7219	295.75	2.35	0.97	17.00	14.04	82.56	9.38	108.87	119.11	85.98
3	Co86249	194.25	2.18	0.77	15.35	12.33	80.38	8.11	95.32	113.68	62.15
	CD	27.59	0.28	0.16	0.94	0.91	5.57	0.85	7.50	7.88	10.88
	CV	7.41	7.59	9.60	3.87	4.51	4.42	6.24	4.75	4.38	10.71

AVT (MID/LATE) I PLANT

Table 3.1 CCS (t/ha)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	15.36	14.12	13.37	13.37	14.05
CoC10337	17.14	18.41	17.12	14.25	16.73
CoOr10346	14.04	14.28	12.72	12.02	13.27
Stds					
CoV92102	14.73	15.37	13.30	12.30	13.93
Co7219	15.39	14.15	12.83	12.45	13.70
Co86249	9.07	8.42	10.02	9.60	9.28
CD(P=0.05)					1.42
CV (%)					6.98

Table 3.2 Cane Yield (t/ha)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	126.40	116.90	113.90	115.30	118.13
CoC10337	138.60	146.70	139.80	120.00	136.28
CoOr10346	113.10	114.60	103.40	100.60	107.93
Stds					
CoV92102	115.10	121.00	107.60	102.50	111.55
Co7219	121.30	111.90	108.60	102.70	111.13
Co86249	85.30	76.70	88.70	82.10	83.20
CD(P=0.05)					8.85
CV (%)					5.27

Table 3.3 Brix % (12 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	16.80	17.40	17.00	16.60	16.95
CoC10337	18.00	18.20	19.00	18.60	18.45
CoOr10346	18.00	18.40	18.20	18.40	18.25
Stds					
CoV92102	19.00	18.40	18.60	19.00	18.75
Co7219	19.20	18.60	18.80	18.00	18.65
Co86249	16.60	17.00	16.80	16.40	16.70
CD(P=0.05)					0.56
CV (%)					2.08

Table 3.4 Sucrose % (12 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	16.69	16.79	16.34	16.09	16.48
CoC10337	17.24	17.48	17.41	16.93	17.27
CoOr10346	17.29	17.45	17.24	16.95	17.23
Stds					
CoV92102	17.95	17.69	17.41	17.17	17.56
Co7219	17.90	17.69	16.93	17.00	17.38
Co86249	15.15	15.60	15.85	16.13	15.68
CD(P=0.05)					0.49
CV (%)					1.93

Table 3.5 Purity % (12 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	99.35	96.49	96.12	96.93	97.22
CoC10337	95.78	96.04	91.63	91.02	93.62
CoOr10346	96.06	94.84	94.73	92.12	94.43
Stds					
CoV92102	94.47	96.14	93.60	90.37	93.65
Co7219	93.23	95.11	90.05	94.44	93.21
Co86249	91.27	91.76	94.35	98.35	93.93
CD(P=0.05)					3.64
CV (%)					2.56

Table 3.6 CCS % (12 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	12.15	12.08	11.74	11.60	11.89
CoC10337	12.36	12.55	12.25	11.87	12.26
CoOr10346	12.41	12.46	12.30	11.95	12.28
Stds					
CoV92102	12.80	12.71	12.36	12.00	12.47
Co7219	12.69	12.65	11.81	12.12	12.32
Co86249	10.64	10.98	11.29	11.70	11.15
CD(P=0.05)					0.50
CV (%)					2.73

Table 3.7 Pol % cane (12 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	13.94	13.25	13.35	13.25	13.45
CoC10337	14.18	14.34	14.49	14.02	14.26
CoOr10346	13.85	13.78	13.94	13.69	13.81
Stds					
CoV92102	14.30	14.52	14.47	14.30	14.40
Co7219	14.21	14.42	13.55	13.97	14.04
Co86249	12.09	13.03	13.16	13.08	12.84
CD(P=0.05)					0.49
CV (%)					2.37

Table 3.8 Extraction % (12 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	50.00	47.00	42.11	45.00	46.03
CoC10337	44.44	43.64	48.89	47.00	45.99
CoOr10346	35.19	30.36	38.46	38.00	35.50
Stds					
CoV92102	46.64	43.75	48.44	53.33	48.04
Co7219	42.00	41.43	45.00	44.23	43.16
Co86249	44.00	50.00	47.83	39.58	45.35
CD(P=0.05)					5.39
CV (%)					8.14

Table 3.9 Fibre % (12 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	11.50	16.10	13.32	12.65	13.39
CoC10337	12.78	12.96	11.76	12.19	12.42
CoOr10346	14.91	16.02	14.15	14.26	14.83
Stds					
CoV92102	15.33	12.94	11.86	11.73	12.97
Co7219	15.64	13.47	14.95	12.83	14.22
Co86249	15.18	11.50	12.00	13.90	13.14
CD(P=0.05)					2.11
CV (%)					10.38

Table 3.10 NMC at ('000/ha) (12m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	120.30	90.20	85.00	82.40	94.48
CoC10337	112.40	103.70	113.20	90.50	104.95
CoOr10346	95.30	92.40	100.50	98.60	96.70
Stds					
CoV92102	85.40	90.90	95.70	80.10	88.03
Co7219	120.50	95.60	97.30	88.60	100.50
Co86249	90.20	80.40	90.10	80.00	85.18
CD(P=0.05)					13.09
CV (%)					9.15

Table 3.11 Stalk Length (cm)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	243.00	300.00	291.00	275.00	277.25
CoC10337	238.00	231.00	260.00	296.00	256.25
CoOr10346	206.00	230.00	233.00	230.00	224.75
Stds					
CoV92102	216.00	246.00	235.00	240.00	234.25
Co7219	315.00	300.00	275.00	293.00	295.75
Co86249	175.00	211.00	198.00	193.00	194.25
CD(P=0.05)					27.59
CV (%)					7.41

Table 3.12 Stalk Diameter (cm)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	3.10	2.50	3.00	2.90	2.88
CoC10337	2.50	3.10	2.80	3.00	2.85
CoOr10346	2.40	2.30	2.20	2.40	2.33
Stds					
CoV92102	2.40	2.40	2.20	2.20	2.30
Co7219	2.40	2.40	2.30	2.30	2.35
Co86249	2.40	2.10	2.10	2.10	2.18
CD(P=0.05)					0.28
CV (%)					7.59

Table 3.13 Single cane weight (kg)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	1.33	1.67	1.27	1.33	1.40
CoC10337	1.50	1.83	1.50	1.67	1.63
CoOr10346	0.90	0.93	0.87	0.83	0.88
Stds					
CoV92102	1.00	1.33	1.07	1.00	1.10
Co7219	0.83	1.17	1.00	0.87	0.97
Co86249	0.83	0.67	0.77	0.80	0.77
CD(P=0.05)					0.16
CV (%)					9.60

Table 3.14 Brix % (10 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	14.40	15.60	15.00	15.40	15.10
CoC10337	16.00	16.00	17.00	16.80	16.45
CoOr10346	16.00	16.20	16.00	16.40	16.15
Stds					
CoV92102	16.00	16.00	17.00	17.20	16.55
Co7219	15.00	18.00	17.00	18.00	17.00
Co86249	15.60	15.00	15.00	15.80	15.35
CD(P=0.05)					0.94
CV (%)					3.87

Table 3.15 Sucrose % (10 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	12.06	12.24	12.30	12.75	12.34
CoC10337	12.48	13.53	13.90	14.63	13.64
CoOr10346	13.22	14.20	14.44	14.66	14.13
Stds					
CoV92102	13.71	14.69	14.17	14.66	14.31
Co7219	12.14	15.05	14.87	14.08	14.04
Co86249	12.48	12.28	12.79	11.75	12.33
CD(P=0.05)					0.91
CV (%)					4.51

Table 3.16 Purity % (10 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	83.75	78.46	82.00	82.79	81.75
CoC10337	78.00	84.56	81.76	87.08	82.85
CoOr10346	82.63	87.65	90.25	89.39	87.48
Stds					
CoV92102	85.69	91.81	83.35	85.23	86.52
Co7219	80.93	83.61	87.47	78.22	82.56
Co86249	80.00	81.87	85.27	74.37	80.38
CD(P=0.05)					5.57
CV (%)					4.42

Table 3.17 CCS % (10 m)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	8.12	7.95	8.19	8.53	8.20
CoC10337	8.08	9.16	9.24	10.05	9.13
CoOr10346	8.84	9.78	10.09	10.19	9.73
Stds					
CoV92102	9.34	10.34	9.52	9.96	9.79
Co7219	8.03	10.13	10.23	9.13	9.38
Co86249	8.20	8.17	8.69	7.39	8.11
CD(P=0.05)					0.85
CV (%)					6.24

Table 3.18 No. of shoots ('000/ha) 240 days

Clones	RI	RII	RIII	RIV	Mean
CoA10321	127.02	113.64	106.53	115.50	115.67
CoC10337	116.50	107.30	115.19	101.27	110.07
CoOr10346	107.83	100.99	101.25	102.56	103.16
Stds					
CoV92102	96.00	93.10	100.19	93.64	95.73
Co7219	124.63	103.62	101.78	105.46	108.87
Co86249	102.72	93.64	94.15	90.75	95.32
CD(P=0.05)					7.50
CV (%)					4.75

Table 3.19 No. of tillers ('000/ha) 120 days

Clones	RI	RII	RIII	RIV	Mean
CoA10321	137.34	122.44	125.12	132.00	129.23
CoC10337	124.27	126.03	122.80	111.77	121.22
CoOr10346	123.33	122.12	116.66	119.00	120.28
Stds					
CoV92102	108.07	117.70	116.81	107.23	112.45
Co7219	126.50	119.50	118.48	111.97	119.11
Co86249	124.22	108.90	113.27	108.33	113.68
CD(P=0.05)					7.88
CV (%)					4.38

Table 3.20 Germination % (30 days)

Clones	RI	RII	RIII	RIV	Mean
CoA10321	69.50	62.50	52.20	62.00	61.55
CoC10337	71.80	68.70	64.50	55.20	65.05
CoOr10346	52.70	68.90	62.70	69.50	63.45
Stds					
CoV92102	61.00	67.90	64.30	72.90	66.53
Co7219	91.20	82.00	78.90	91.80	85.98
Co86249	64.10	59.10	70.00	55.40	62.15
CD(P=0.05)					10.88
CV (%)					10.71

4. Fluff-2014

1	Total no. of crosses received	:75
		a)Zonal crosses: 11
		b)Station crosses:15
		c)Poly crosses:12
		d)General Collections:37
2	Total weight of fluff received:	2.6 Kg
3	Date of sowing	:19.02.2014 to 25.02.2014
4	No.of crosses/GC germinated	:70
5	Total no. of seedlings germinated	: 39469

Table 4. No. of seedlings germinated

Type of cross	No. of Cross Sown	No. crosses germinated	Total no. of Seedlings obtained
Station Crosses	15	15	6623
Zonal crosses	11	11	2279
Poly Crosses	12	10	4940
General Collections	37	34	25627
Total	75	70	39469

The seedlings were transplanted from 29.04.2014 to 26.05.2014

Table 5. Details of seedlings germinated from fluff obtained from SBI, Coimbatore

S. No	Cross/PC/GC	No. of seedlings germinated
	Station crosses	
1	CoC 671xCoS 8436	5
2	C81615xCoC 671	20
3	MS 6847xCo 92006	1621
4	ISH100xCo 94008	401
5	CoV92102 x CoT8201	396
6	Co 62198 x Co775	3
7	Co 1148 x Co 775	1520
8	MS6847xCoV 92102	1107
9	CoC 90063x Co 86011	577
10	CoA92081xCoT 8201	35
11	CoA 92081xCo 94008	71
12	Co 98010 x C 84026	334
13	Co85002 x ISH 175	731
14	Co 2000-10 x 85R186	51
15	Co 98008 x ISH 43	152
	Zonal crosses	
16	CoA 92081 x Co 94008	18
17	CoV 89101 x ISH 69	722
18	CoV 89101 x CoA7602	70
19	CoV 89101 x CoT 8201	180
20	ISH 100 x C 81615	97
21	Co 6304 x CoA7602	20
22	CoA 92081 x CoT 8201	60
23	CoC 90063 x Co94008	161
24	CoA 92081 x CoV 92102	70
25	Co 8371 x Co775	426
26	Co 740 x Co C 671	576
	Poly crosses	
27	CoM 0265	2
28	ISH 100	207
29	Co 94012	1560
30	Co 85002	2355
31	CoA 7602	136
32	86V46	99

S. No	Cross/PC/GC	No. of seedlings germinated
33	CoC 671	Nil
34	CP 5268	5
35	Co 2000-10	85
36	Co 7201	16
37	Co 8371	482
38	CoC 90063	Nil
	General collections	
39	Co 82272	66
40	CoA 92081	551
41	Co 92006	409
42	Co 7224	74
43	C 84070	534
44	CoV 94101	590
45	Co 8213	443
46	Co 98008	1197
47	Co 86010	64
48	Co 88028	50
49	Co 87023	10
50	Co 62198	2
51	Co 775	803
52	Co 740	32
53	CoM 9220	1948
54	Co 86002	1336
55	Co 775	2381
56	NB 94545	577
57	Co 86002	534
58	CoNo 5071	63
59	Co 98010	1170
60	89V74	117
61	Co 87267	36
62	C 79113	439
63	MS 6847	646
64	CoN 98133	672
65	C 81615	Nil
66	CoV 92102	326
67	Co 88013	1420

S. No	Cross/PC/GC	No. of seedlings germinated
68	CoC 8001	1585
69	Co 98010	1170
70	C 79280	10
71	7045	Nil
72	Co90018	1882
73	C 79218	551
74	Co 94008	171
75	CoH 119	166
	Total	39469

Table 6. Achievement made in fluff supply programme from the year 2009 to 2014

S. No	Year	No. of seedlings	C1	C2	C3	C4	C5
1.	2014	39469					
2.	2013	23309	1000				
3.	2012	16288	535	270			
4.	2011	1070	200	30	13		
5.	2010	7007	378	56	24	24	
6.	2009	6589	450	221	48	23	13

Table 7. Meteorological Data-2013

Month/ Year	Temperature(C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max	Min	Max	Min		
Jan.2013	28.3	20.2	100.0	65.1	0	0
Feb. 2013	28.9	21.6	98.7	69.6	0	0
Mar. 2013	31.4	25.2	91.9	70.8	109	4
Apr. 2013	31.5	26.8	92.2	68.6	0	0
May2013	34.6	29.1	80.3	63.5	0	0
Jun. 2013	35.7	28.4	72.23	43.60	22	3
Jul. 2013	33.9	27.2	82.67	51.32	52	2
Aug. 2013	32.6	26.4	89.80	62.38	315	11
Sep. 2013	32.4	26.2	93.76	65.30	0	0
Oct. 2013	30.2	25.3	95.83	79.83	71	3
Nov. 2013	27.9	23.7	99.1	80.1	181	6
Dec. 2013	27.8	22.3	97.21	72.03	32	1
Total					792	30